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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/598,384      | 06/21/2000  | Yasuaki Hirano       | 204552018400        | 6872             |

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EXAMINER

PHAN, TRONG Q

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 04/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.  
09/598,384

Applicant(s)

HIRANO

Examiner

TRONG PHAN

Art Unit

2818



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

1)  Responsive to communication(s) filed on Oct 4, 2000

2a)  This action is FINAL.      2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

4)  Claim(s) 1-6 is/are pending in the application.

4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 3-6 is/are allowed.

6)  Claim(s) 1 and 2 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved.

12)  The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

13)  Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)  All b)  Some\* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

### Attachment(s)

15)  Notice of References Cited (PTO-892)

16)  Notice of Draftsperson's Patent Drawing Review (PTO-948)

17)  Information Disclosure Statement(s) (PTO-1449) Paper No(s). 7

18)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

19)  Notice of Informal Patent Application (PTO-152)

20)  Other: \_\_\_\_\_

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***Drawings***

1. Figures 19 and 21 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
2. Fig. 19 Prior Art is objected to as failing to comply with 37 CFR 1.84(p)(5) because it does not include the following reference elements mentioned in the description: Vnw, Vpp, Vpe and Vns (lines 2, 4 and 11-12, respectively, of page 4). Correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371<sup>®</sup> of this title before the invention thereof by the applicant for patent.

4. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanaka et al., 6,285,59.

Tanaka et al., 6,285,59, discloses in Fig. 1 a non-volatile memory device which can be used to perform both programming (see line 1 of claims 1 and 4) and erasing operations by using tunnel injection effect (see lines 7-12, column 14) which is inherently the Fowler-Nordheim F-N tunneling phenomenon as well known in the art;

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for erasing operation (also for writing operation), a negative voltage (-12V) being applied to the P-well type region, a positive power supply voltage Vcc being applied to a selected word line and a negative voltage (-12V) being applied to the non-selected word lines (see lines 28-39, column 18).

***Allowable Subject Matter***

5. Claims 3-6 are allowed.

6. The following is an examiner's statement of reasons for allowance:

The row decoder as recited in claims 3-6 has not been found in the prior art.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yang et al., 5,894,438, Hirano, 6,256,228, Hsu et al., 6,160,737, Ahrens et al., 6,212,103, Atsumi et al., 6,144,582, Onakado et al., 5,978,264, and Shiau et al., 5,966,331.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRONG PHAN whose telephone number is (703) 308-4870 and email address is [trong.phan@uspto.gov](mailto:trong.phan@uspto.gov).



**TRONG PHAN  
PRIMARY EXAMINER**

April 18, 2002